

POST-WORKSHOP COMMENTS OF THE UTILITY REFORM NETWORK ON ENERGY EFFICIENCY BASELINE AND TO-CODE INCENTIVE ELIGIBILITY ISSUES

May 28, 2015

(Submitted to Energy Division Staff)

I. Introduction

The Utility Reform Network (TURN) submits these comments addressing the questions raised by Energy Division Staff (Staff) as part of the Commission's April 28, 2015 Workshop on Energy Efficiency Baselines and To-Code Incentive Eligibility Issues (Baseline Workshop). TURN appreciates the Commission's investigation of potential changes to energy efficiency baseline and to-code incentive eligibility policies. TURN believes that allowing in-field condition baselines - with appropriate regulatory criteria and strategic market applications - could be a significant and much needed "game changer" for capturing energy efficiency (EE) savings in California's existing building stock through ratepayer-funded programs. TURN has previously addressed our concern that current EE achievements are lackluster in both savings and cost effectiveness, and at a time when California policies are placing increasing emphasis and pressure on EE to perform.¹

In the sections below, TURN addresses a number of issues raised at the Baseline Workshop, including but not limited to the specific questions asked by Staff.

II. Responses to Staff's Questions for Stakeholders

- 1. The measure characterization list presented by CPUC staff— and included in the CPUC white paper presentation—identifies the measures that will be covered in the Baseline Analysis, and how they should be characterized. This is intended as a starting point for discussion analysis rather than a decision on baseline.**

¹ See, e.g., R.13-11-005 Comments of TURN on Phase II Workshop 3, April 13, 2015, pp. 2 -3; R.14-10-003, Opening Response of TURN to the April 15, 2015 Joint AC and ALJ Ruling Requesting Responses to [iDSM] Questions, May 15, 2015, pp. 6-7.

Is the measure characterization list complete, or are there additional types of measures that may have uncaptured energy efficiency savings below code or ISP? Are they characterized accurately? What changes do you propose?

TURN appreciates Navigant's time and effort in developing the "Draft Deemed Measure Category Classification Table" listing about 60 discrete EE measures by customer categories for its baseline analysis.² TURN agrees with the comments of utilities, implementers, and other contractors at the workshop that the Navigant measure list does not capture the full universe of key code compliant measures. Most notably missing are systems and whole building categories or classifications. TURN notes that analyzing baselines only by discrete measures will contribute to a perpetuation of the existing business-as-usual approach to EE, which largely delivers singular measures (predominately CFLs and T8s, at least in past portfolios), that easily align with customer short investment horizons. One of the objectives of moving to in-field baselines should be to achieve deep and comprehensive whole building / whole site EE savings. This requires a baseline analysis that contemplates systems and whole buildings.

- 2. In your professional experience, what are the types of actions in the market place that lead to buildings/energy end uses failing to meet code or be upgraded to ISP, and what measures do not get adopted because of this? Please be specific and comprehensive, listing out all types of activities and correlated measures that you are aware of. Please identify the types of building that these experiences apply to, i.e., Class A, B or C commercial; public or private buildings, types of commercial activity, vintage of buildings etc. For instance, what ways do contractors act to avoid "triggering code"?**

TURN does not have expertise in this area, but would refer to our general discussion below regarding the role and effect of increasing and often complex codes and standards in driving the market to difficult non-compliance.

² Agenda for the Workshop on Energy Efficiency Baselines and To-Code Incentive Eligibility Issues, Attachment B.

3. **What specific information/data can you provide on the volume of deferred retrofits and retrofits that avoided code triggers or code compliance? In what types of buildings (as clarified above)? What evidence is there that these cases reflect norms of market activity rather than the exception?**

TURN has no information responsive to this question.

4. **How do the Commission and CEC's assumptions about the rate of turnover compare with your observations of the market? Please be comprehensive and specific (like above). What evidence/ data can you provide?**

TURN does not have expertise in this area, but would note that many implementers and contractors represent that the Commission's assumed estimated useful life (EUL) values are too low and do not reflect in-field conditions for a handful of key EE measures with high levels of noncompliance, most notably commercial HVAC.

5. **Equipment does burn out, and buildings do get retrofit, triggering code upgrades. Given this reality, coupled with the fact that federal and state Codes and Standards exist and set efficiency floors for replacement equipment and building renovations, how can the CPUC ensure that an existing conditions baseline will not provide customers incentives and credit utility programs for large amounts of savings that are already occurring anyway?**

This very critical question speaks to how “baseline choice weaves inextricably throughout our program design,”³ and anticipates the need to update program design and implementation strategies. If the Commission were to use operational field condition baselines for ratepayer-funded EE programs, such programs would still need to retain the current emphasis on maximizing incremental savings at each premise and preventing lost opportunities, but the strategies for accomplishing these outcomes would necessarily change. For this reason, TURN believes that the use of operational field condition baselines, to the extent embraced by the Commission, should be accompanied by the programmatic expectation of demonstrated efficiency improvements not just to code, but above code, with the utilities embracing the “less likely to occur” efficiency improvements by “upping the excellence” in the quality of

³ D.14-10-046, p. 3.

equipment/hardware, installation, operations, and maintenance practices.⁴ Likewise, allowing EE program implementers to work with existing operational use conditions could allow for a different, and more comprehensive and dynamic approach to, whole building retrofits. For instance, moving to existing operational use baseline conditions could allow meter-to-ground engineering analysis of loads and duration, building science and operations, to promote favorable load modifications (duration and time) per localized conditions through various DSM/DER interventions.

From TURN's viewpoint, a potential change in baseline implicates new opportunities, as well as new responsibilities to ensure that ratepayer-funded EE programs capture savings that would not otherwise occur, and do so in a manner that takes strategic advantage of rare points of market intervention to maximize savings (and customer satisfaction). For this reason, TURN recommends that Staff identify potential changes in program design and implementation strategies that could be appropriate (or at least are worth further exploring) in the event that the Commission adopts changes in the existing choice of baseline policies. TURN does not expect Staff to fully analyze any such program design changes, but we believe that Staff could meaningfully contribute to the Commission's future consideration of baseline issues in Phase III of R.13-11-005 by at least identifying in this study some potential changes that should be explored.

III. Staff Correctly Warns of the Potential, Dramatic Impact on Rates From a Change in Baseline Policy.

Staff frames its post-workshop "Questions to Stakeholders" with the following warning: "Changing baseline to existing conditions could potentially vastly increase the energy efficiency budget. To justify this change to the Commission, specific, data-based evidence is necessary."⁵ TURN agrees that the Commission must proceed thoughtfully, given both the potential impacts on the EE portfolio budgets and uncertainty surrounding the magnitude of incremental savings to be captured from a change in baseline policies.

⁴ For instance the EE portfolios have an overall freeridership rate of about 50%. With close to half of the energy savings from lighting, and a large portion of those CFLs and T8s, EE programs are following, not leading the efficiency markets.

⁵ Agenda for the Workshop on Energy Efficiency Baselines and To-Code Incentive Eligibility Issues, Attachment A: Request for Comments.

According to the 2010-2012 Energy Efficiency Annual Progress Evaluation Report, issued in March 2015, savings attributed to the Codes and Standards (C&S) program made up 23%, 21%, and 6% of total portfolio GWh, MW, and MM Therm savings, respectively, reflecting gross evaluated savings and C&S.⁶ These percentages increase to 32% (GWh), 29% (MW), and 10% (MM Therms) of portfolio savings when evaluated net savings are used. On paper at least, the C&S program is extremely cost-effective, due to its modest budget (representing just 1% of portfolio costs⁷) and significant savings, with a TRC of 3.64.⁸ Indeed, including C&S savings in the 2010-2012 EE portfolio increased the total portfolio TRC from 1.04 (barely cost-effective) to 1.31 (solidly cost-effective).⁹

Changing baseline policies will require a recognition that the C&S program is not performing as expected. As Jeanne Clinton aptly noted at the Baseline Workshop, the same C&S savings cannot reside in multiple buckets; moving savings to the “bucket” of customer-targeted programs must result in an offsetting reduction to savings in the C&S “bucket.” Such a reduction would more appropriately align with reality, in TURN’s view. Underlying the C&S program claimed savings are assumptions of very high rates of compliance with Titles 20 and 24, ranging between 83% and 95%.¹⁰ TURN has long called into question these compliance assumptions, as have many others. To the extent that potential EE savings are “stranded” in

⁶ Calculated based on data in Table 1, p. 13.

⁷ Calculated based on reported costs of \$30 million for C&S and \$2.5 billion for other EE portfolio activities (excluding low-income programs). See 2010-2012 Energy Efficiency Annual Progress Evaluation Report (March 2015), p. 12.

⁸ 2010-2012 Energy Efficiency Annual Progress Evaluation Report, p. 13, Table 1.

⁹ *Ibid.* It is important to recognize that this 1.04 TRC is likely inflated. Staff’s evaluation activities for 2010-2012 programs reviewed approximately 75% of claimed savings, and the remaining 25% of claimed savings were simply “passed through” without evaluation or adjustment. *Id.*, p. 10. Because evaluated savings were significantly lower than claimed savings, it is reasonable to assume that had Staff evaluated the remaining 25% of claimed savings, a downward adjustment would have occurred. See, *Id.*, p. 13, Table 13 (showing claimed versus evaluated savings).

¹⁰ Title 20 and 24 compliance rates of 85% and 83%, respectively, were used in the potentials analysis and subsequent basis for the EE goals. The Navigant team analyzed the savings from C&S using the same methodology as the last CPUC evaluation of IOU C&S programs: KEMA, Inc., The Cadmus Group, Inc., Itron, Inc., and Nexus Market Research, Inc. April 9, 2010. *Final Evaluation Report, Codes & Standards (C&S) Programs Impact Evaluation, California Investor Owned Utilities’ Codes and Standards Program Evaluation for Program Years 2006-2008.*

California's existing building stock, unreachable under the current policy regime, then the C&S program cannot be credited with delivering those same savings.

Changes to baseline policies intended to capture so-called "stranded savings" in existing buildings would cut across many of the assumptions used in EE and supply side resource planning, including those related to (1) C&S compliance rates, (2) the incidence of naturally occurring EE, reflected in the CEC's IEPR and interrelated system planning documents, and (3) estimated useful lives of equipment and measures, among others.¹¹ At least as far as the first is concerned, it is important to recognize that shifting savings from the high-TRC C&S bucket to the far more costly (on average) customer-targeted program "bucket" will change the cost-effectiveness of the total portfolio in potentially dramatic ways, if all else remains equal. Of course the promise is that bona fide savings from existing building retrofits that would otherwise not occur would replace the "phantom" savings generously attributed to the C&S program.

IV. The Commission Should Be Mindful of Opportunities to Reduce Portfolio Costs To Help Mitigate Potential Rate Impacts from a Change in Baseline Policy.

Given the risk that baseline changes will drive portfolio costs up, TURN urges the Commission to seize the opportunity presented in Phase II of R.13-11-005 to re-conceptualize the EE portfolio in ways that reduce portfolio complexity and redundancy in administration and oversight, and thus reduce costs. For instance, approximately 70% of the 2010-2012 total portfolio electric and demand savings came from lighting measures; it was, as is typical, a lighting-dominated portfolio (on the electric side).¹² Yet it apparently took 138 programs or subprograms to deliver these lighting savings, begging the question of whether portfolio restructuring and structural simplification could yield the same savings at much lower cost.¹³ TURN submits that it would be premature to jump to the conclusion that the current EE budgets

¹¹ In fact, three different EE baselines are in use in California: incentive program, load planning, and operational use. The incentive program baseline defines the appropriate use of ratepayer funds for EE measure incentive purposes, measuring savings generally above code and net of naturally occurring factors. This is largely in the CPUC's domain. The load planning baseline provides the planned load and energy requirements for system planning. This is largely in the CEC's domain. The operational use baseline is what the grid sees / registers as load and energy requirements on a meter to circuit to substation basis. This is largely in the CAISO's domain.

¹² 2010-2012 Energy Efficiency Annual Progress Evaluation Report (March 2015), pp. 105-106.

¹³ *Id.*

must be increased to accommodate in-field baselines, without earnestly considering opportunities to streamline portfolio spending and increase savings.

V. Strategies Other Than a Change in Baseline Policy May Be Needed to Address the Barriers to Capturing Energy Efficiency Savings From Existing Buildings Caused by Code Requirements, as Described by Workshop Participants.

Discussions at the April 28, 2015 Baseline Workshop made clear that a key element in increasing portfolio savings and cost-effectiveness is unraveling how utility EE incentive programs and the CEC's EE codes and standards may be increasingly working at cross purposes. The CEC described this conundrum in its 2013 IEPR:

Developing and enforcing energy efficiency codes and standards are critical tools for implementing the building order. It is important to note that as energy efficiency codes and standards continue to improve, energy efficiency savings from incentives programs may diminish unless those programs continue to expand beyond traditional efficiency measures. To accomplish this, the state may need to modify its incentive mechanisms to provide value for both compliance with the standards and the total energy savings from upgrading inefficient equipment and building measures.¹⁴

What the CEC does not explicitly mention is that increasingly rigorous EE codes and standards may be creating unintended hurdles to EE, as building owners seek to avoid retrofits that might trigger complicated and costly code requirements.

Workshop participants pointed to the role and effect of increasingly aggressive and often complex codes and standards in driving the efficiency market to difficult levels of non-compliance, while diminishing the effectiveness of EE incentive program. Some suggested that the burden of code compliance may have become *the* limiting or constraining factor in key code-compliant lighting and HVAC retrofits, rather than incentive levels or savings counting.¹⁵

Examples discussed include “code trigger requirements” on lighting fixtures, where if 40 fixtures or more are replaced, lighting controls and other retrofits / upgrades must be installed. One workshop participant referred to this as “unintended code impacts” that in some instances could double project costs via controls wiring, etc. Under such conditions, maintenance is

¹⁴ CEC 2013 IEPR, Chapter 1 “Energy Efficiency,” p. 27.

¹⁵ It is important to recognize that each code or standard is incremental, meaning that multiple code changes over the past decade have a cumulative effect in terms of compliance.

always an option; 20-30 lighting fixtures can be kept working given that the average payback period required for small commercial customers is two years.

Another workshop participant opined that California is “too far out front on C&S.” The “trigger condition” on lighting fixtures creates a market response of retrofit / remodel projects not touching the lighting in retrofits. However, because lighting is the “starter fluid” (meaning generally very cost effective) for all other retrofit and efficiency upgrades, this market response is causing a dampening effect on comprehensive projects as a whole. A case in point is commercial HVAC, where cumulative code requirements are turning unit change outs into much larger retrofit projects requiring structural analysis and other more comprehensive engineering and construction work. While such code requirements may appear justified on paper, one critical unintended consequence is the “repair indefinitely” outcome discussed at the workshop.¹⁶

These troubling observations by EE market participants warrant immediate attention from not only the Commission, but also the CEC. They call into question how effective it will be to offer more incentives, based on larger calculated savings, when retrofits must still comply with what may be daunting code requirements. Thus, it is important to recognize that, while changes in baseline policies may be appropriate and necessary to work towards the State’s EE goals, such changes will not be a panacea. Policymakers must also revisit the strategies behind the existing codes and standards and consider whether changes are needed to capture, rather than “strand,” EE savings. The risk is that California will focus on baseline policies without looking more broadly to the nature and extent of market barriers to maximizing cost-effective EE in existing buildings. Both would appear to be urgent inquiries.

VI. Conclusion

TURN appreciates the opportunity to submit these comments and looks forward to participating in the Commission’s continued deliberation over Energy Efficiency baseline policies and to-code incentive eligibility issues.

¹⁶ Unlike smaller HVAC units (residential and some small commercial) that are generally not replaced until burn-out, larger commercial / industrial space conditioning units are generally replaced prior to failure.